

CLAIMS

1. Process for preparing a moulding composition comprising melt-mixing of a thermoplastic polymer, a non-metallic fibrous reinforcing agent and elementary iron having a weight average particle size of at most 450  $\mu\text{m}$  to form a composition wherein the thermoplastic polymer forms a continuous phase.
5. Process according to claim 1, wherein the elementary iron has a weight average particle size of at most 250  $\mu\text{m}$ .
2. Process according to claim 1 or 2, wherein the elementary iron is added in the form of a masterbatch comprising finely dispersed elementary iron in a carrier polymer.
10. Process according to claim 3, wherein both the carrier polymer and the thermoplastic polymer is a polyamide.
3. Process according to any of the claims 1-3, wherein the thermoplastic polymer is a semi-crystalline or crystalline polymer having a melting temperature of at least 180°C or an amorphous polymer having a glass transition temperature of at least 180°C.
15. Moulding composition comprising a thermoplastic polymer as a continuous phase, a non-metallic fibrous reinforcing agent and a heat stabilizer in the form of finely dispersed elementary iron having a weight average particle size of at most 450  $\mu\text{m}$ ,
6. Composition according to claim 6, comprising
  - a. 100 pbw thermoplastic polymer,
  - b. 5-300 pbw non-metallic fibrous reinforcing agent,
  - c. 0.01-20 pbw finely dispersed elementary iron and
  - d. 0-30 pbw of a carrier polymer,wherein "pbw" means "parts by weight".
20. Composition according to any of the claims 6-7, wherein the composition further comprises at least a filler or another additive.
25. 30.

9. Composition according to any of the claims 6-8, consisting of

- 94.95-29.95 mass % thermoplastic polymer,
- 5-70 mass % non-metallic fibrous reinforcing agent,
- 0,05-16 mass % finely dispersed elementary iron,
- 0-16 mass % a carrier polymer,
- 0-69,95 mass % inorganic filler and
- 0-16 mass % other additive,

wherein the mass % are relative to the total mass of the composition, the total amount of (b+c+e) is at most 75 mass %, relative to the total mass of the composition, the total amount of (d+f) is at most 30 mass %, relative to the total amount of (a+d+f) and the total amount of (a+b+c+d+e+f) is equal to 100 mass%.

10. Thermoplastic polymer composition according to any one of claims 6-9, wherein the thermoplastic polymer is an aliphatic polyamide, having a HDT, measured according ISO 75/A, of at least 220 °C, and having a tensile strength and / or elongation at break, tested on a test bar with a thickness of 4 mm in a tensile test according to ISO 527 at 23°C, which is retained for at least 60% after heat-ageing for 800 hours at 215°C.

11. Thermoplastic polymer composition according to any one of claims 6-9, wherein the thermoplastic polymer is a semi-aromatic polyamide, having a HDT, measured according ISO 75/A, of 250°C or higher, and having a tensile strength and / or elongation at break, tested on a test bar with a thickness of 4 mm in a tensile test according to ISO 527 at 23°C, which is retained for at least 50% after heat-ageing for 800 hours at 230°C..

12. Use of a composition according to any of the claims 7-11 for the preparation of a moulded part.

13. Moulded part comprising a composition according to any of the claims 7-11.

14. Assembled article comprising a moulded part according to claim 13.

15. Use of a moulded part according to claim 13 in a machine, an engine, an electric or electronic installation.

16. Electric or electronic installation comprising a moulded part according to claim 13 or an assembled article according to claim 14.

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17. A machine, engine, an electric or electronic installation comprising a moulded part according to claim 13
18. Automotive vehicle, general transport means, domestic appliance, or general industry installation, comprising a moulded part according to claim 13 or a machine or engine according to claim 17.

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